Policy on the Use of Coastal and Estuarine Waters for Power Plant Cooling

Joint Agency Workshop
on Emission Offset Challenges for
Fossil Power Plants in Southern California

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Our Goal

To protect marine life from the adverse impacts of once-through cooling water intake structures, in compliance with CWA Section 316(b), while ensuring continuity of the State's electrical grid.

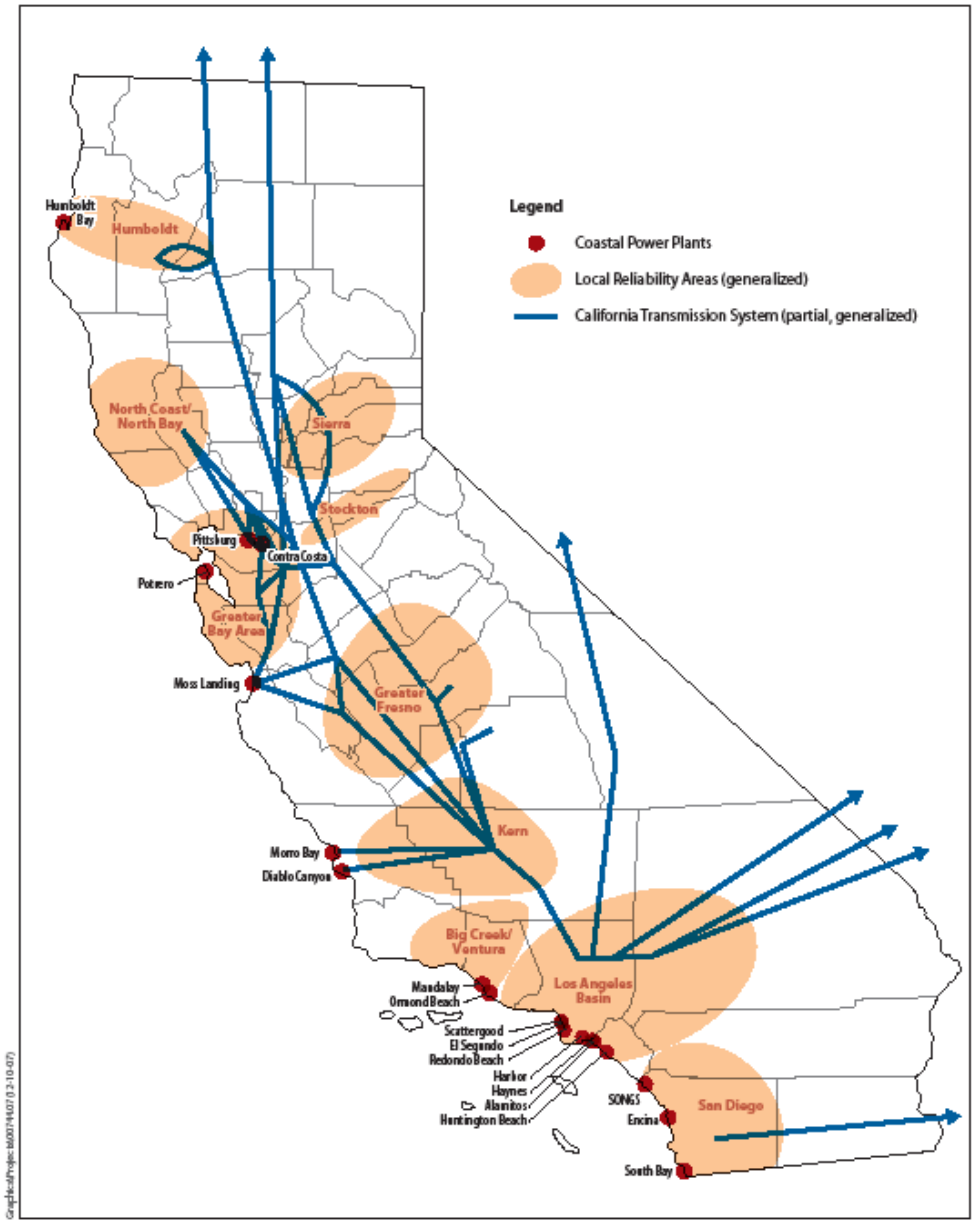
Impacts to Aquatic life from Once-through Cooling Water Systems

- **Impingement:** when larger aquatic organisms, such as fish, turtles, and mammals, become injured by or trapped against a facility's intake screens.
- **Entrainment:** when smaller aquatic organisms, such as plankton, fish larvae, and eggs, are drawn through the cooling system where they are subjected to high heat, rapid pressure changes, chemicals, and violent sheering forces.
- **Thermal Discharges**

Existing Coastal Power Plants

The proposed Policy applies to the 19 power plants with the capacity to withdraw over 15 billion gallons per day of water from the State's coastal and estuarine waters using a single-pass system, known as once-through cooling (OTC).

Humboldt Bay, RB1
Contra Costa, RB5
Pittsburg, RB2
Potrero, RB2
Moss Landing, RB3
Morro Bay, RB3
Diablo Canyon, RB3
Mandalay, RB4
Ormond, RB4
El Segundo, RB4
Scattergood, RB4
Redondo, RB4
Harbor, RB4
Alamitos, RB4
Haynes, RB4
Huntington Bch, RB8
San Onofre, RB9
Encina, RB9
South Bay, RB9



Jones & Stokes

Figure 1
Locations of Power Plants, Local Reliability Areas, and California's Major Transmission System

The OTC Policy

- The Policy establishes statewide **technology-based requirements** to significantly reduce adverse impacts to aquatic life from once-through cooling.
- Closed-cycle wet cooling has been selected as **Best Technology Available** (BTA).
- Permittees must either reduce intake flow and velocity (**Track 1**) or reduce impacts to aquatic life comparably by other means (**Track 2**).

Policy milestones

- The Policy was **adopted** by the State Water Board on May 14, 2010 after a lengthy public process.
- The Policy was **approved** by the Office of Administrative Law on September 27, 2010.
- The Policy became **effective** on **October 1, 2010** when the CEQA Notice of Decision was submitted to the Secretary of Resources.

Implementation Strategy

- The Policy is implemented through an **adaptive management strategy** by which the standards can be achieved without disrupting the critical needs of the State's electrical generation and transmission system.
- The **Inter-Agency Working Group** was formed in 2008 to develop realistic implementation plans and schedules for the Policy that will ensure electric grid reliability (Members: ARB, CAISO, CEC, CCC, CPUC, SLC, and SWRCB)

Implementation Strategy, cont.

- An Statewide Advisory Committee on Cooling Water Intake Structures (**SACCWIS**) has been established to review implementation plans and schedules and provide recommendations to the State Water Board at least annually.
- The State Water Board will consider SACCWIS's recommendations and make modifications to the Policy as appropriate.
- The permittees' NPDES permits will be reissued or modified to conform with the Policy.

Implementation Schedule

Fossil-fueled facilities:

- Permittees must submit a proposed implementation plan to the Water Boards by **April 1, 2011** (letters have been sent out requesting information).
- SACCWIS will review the implementation plan and schedule(s) by **October 1, 2011** and report to the State Water Board with recommendations.
- Each facility has its **own compliance deadline**. Permittees must meet their deadline as soon as possible, with considerations of grid reliability.

Implementation

Nuclear-fueled power plants:

- A **Review Committee** has been established to oversee special studies, which will investigate the ability, alternatives, and cost for the two nuclear plants to meet the Policy requirements.
- The special studies will be conducted by an independent third party with nuclear power plant engineering expertise.
- Letters have been sent to the permittees, requesting information.

Questions?